SECTION 5 - DRINKING WATER

Table of Contents

5 DRINKING WATER

Synopsis

The purpose of this section is to provide information regarding the procurement and maintenance of the drinking water used at NWS facilities and work sites. The section applies to all NWS facilities, work sites and employees.

Initial Implementation Requirements:

- **Determine Source of Drinking Water - Bottled Water, Private Well or Public Water System**
- **If Bottled water:**
  - Attempt to learn where and when the water was bottled *(5.5.1)*
- **If a Well:**
  - Determine if the well serves more than 25 people 60 days per year *(5.5.1)*
  - If no, test water for at least nitrate and bacteria *(5.5.2a)*
  - If yes, perform all testing as required by the Safe Drinking Water Act *(5.5.1)*
- **Initiate Water Conservation Program** *(5.6)*
  - Inform NWS personnel on the necessity and scope of the program.

Recurring and Annual Task Requirements:

- **If Water Comes from a Well:**
  - Test water on an annual basis *(5.5.2a)*
  - maintain the well and surrounding area *(5.5.2b)*
  - Provide information on the water conservation program on a periodic basis

Checklist

5 Drinking Water	YES	NO	N/A
1. Does the facility/work site use a well that supplies more than 25 people? *(5.5.2)*	☐	_____	_____
2. Does the facility/work site use a private well (supplies less than 25 people)? *(5.5.2)*	_____	_____	_____
3. If a private well, is a test for nitrate and bacteria performed annually? *(5.5.2a)*	_____	_____	_____
4. If the well is under the control of the NWS:			
a. is it periodically inspected for cracked or broken casing or cap? *[5.5.2b(1)(a)]*	_____	_____	_____
b. is the area surrounding the well sloped away from the well head? *[5.5.2b(2)]*	_____	_____	_____
c. has a sanitary seal been applied to prevent unauthorized use or entry? *[5.5.2b(3)]*	_____	_____	_____
d. are records of all well maintenance kept on-site? *[5.5.2b(4)]*	_____	_____	_____
e. are chemical mixing activities performed away from the well? *[5.5.2b(6)]*			
f. if a septic system is also used, is the septic system pumped and inspected according to local Health Department guidelines? *[5.5.2b(7)]*			
5. Has a water conservation program been investigated and implemented? *(5.6)*	_____	_____	_____

5 DRINKING WATER

5.1 Purpose and Scope

This section is promulgated to ensure all NWS personnel are provided clean, pure drinking water at all NWS facilities and work sites. The section applies to all NWS facilities and work sites.

5.2 Definitions

Grey Water - slightly contaminated water resulting from washing/rinsing operations.

Xeriscaping - landscaping technique which minimizes the use of water for irrigation.

5.3 Acronyms

CFR	-	Code of Federal Regulations
EPA	-	Environmental Protection Agency
NOAA	-	National Oceanic & Atmospheric Administration
NWS	-	National Weather Service
NWSH	-	National Weather Service Headquarters
RECO	-	Regional Environmental Compliance Officer
SDWA	-	Safe Drinking Water Act

5.4 Regulatory Requirements

Under the authority of the Safe Drinking Water Act (SDWA), the EPA has established the Office of Groundwater and Drinking Water which has created regulations for:

a. Drinking water
b. Standards for public drinking water systems
c. Programs to protect groundwater supplies.

5.5 NWS Program

5.5.1 Public Water Systems

NWS facilities and work sites receive drinking water from one of three sources: bottled water, a public drinking water system or a private well.

Of these, the EPA regulates the public water systems under the SDWA by setting and enforcing water quality standards. The local water authority or system is required to ensure the water it produces meets the EPA drinking water standards. NWS facilities

or sites connected to public water systems are only required to ensure the incoming water piping system is properly installed and maintained to avoid any cross contamination with the waste or sewage drain piping system.

Normally the use of bottled water is considered a safe alternative however, facilities using this type of drinking water must always be aware where the water is bottled and approximately when. Cases have been reported where water bottled after a major weather or natural event in the area of the bottling plant had been contaminated causing warnings to be issued.

If the drinking water for a NWS facility is supplied by a well and the well serves more than 25 people at least 60-days per year, the well is considered a public water supply and subject to all the requirements of the SDWA.

Because the requirements for public drinking water systems are very extensive and expensive, NWS facilities that meet this definition must contact the NOAA Regional Environmental Compliance Officer (RECO) for assistance.

5.5.2 Private Wells

Because the EPA considers water wells that supply water to fewer than 25 people to be "private wells," the agency does not regulate them nor the water they produce. Some state and local governments do regulate these wells, however, and thus a check with the local Health Department will be necessary.

a. Water Testing

For NWS facilities and work sites served by a private well, maintaining the system will include testing of the water annually for nitrate and coliform bacteria to detect contamination problems. If a problem is suspected, the water should be tested more frequently and possibly for more potential contaminants such as radon or pesticides. A list of the 80 contaminants controlled by the EPA as part of the primary drinking water standards can be found in 40 CFR Part 141.

The testing for nitrate and bacteria samples will typically cost between $10 and $20 to perform, however, testing for pesticides and other organic chemicals and metals can exceed several thousand dollars. The funding for this testing should be part of the operational budget for the facility.

Because the states certify water testing labs, a call to the State Certification Officer can quickly provide a list of labs who are approved to perform the

testing. A list of State Certification Officers is available on-line at http://www.epa.gov/safewater/faq/sco.html.

If a standard is exceeded, retest immediately and contact the NWS Regional Environmental/Safety Coordinator, NOAA RECO and/or the Public Health Department for assistance.

If the problem persists, bottled water shall have to be brought in to keep the facility or work site operational.

b. Well Maintenance

If the water well is under the control of the NWS, it must be maintained and protected from contamination. This effort will include:

(1) periodically inspecting exposed parts of the well for problems such as:

(a) cracked, corroded or damaged well casing
(b) broken or missing well cap
(c) settling and cracking of surface seals

(2) Sloping the area around the well to drain surface run-off away from the well.

(3) Installing a well cap or sanitary seal to prevent unauthorized use of, or entry into, the well.

(4) Keeping accurate records of any well maintenance, such as disinfection or sediment removal, that may require the use of chemicals in the well.

(5) Hiring a certified well driller for any new well construction, modification or abandonment and closure.

(6) Avoiding mixing or using pesticides, fertilizers, herbicides, degreasers, fuels and other pollutants near the well.

(7) Pumping and inspecting the septic system as often as recommended by the local Health Department.

In addition, all facility maintenance personnel must be informed that they must:

(1) Not dispose of wastes in dry wells or in abandoned wells.

(2) Not cut off the well casing below the land surface.

(3) Never dispose of hazardous materials in a septic system.

5.6 Water Conservation

Regardless of whether a NWS facility or work site obtains drinking water from a municipal water system or an on-site well, the facility or work site will implement and maintain a water conservation program that acknowledges that water is a valuable resource that cannot and must not be wasted. The EPA estimates that of the 150-gallons of water each person uses everyday, only 1/2-gallon is used for drinking. The remaining 149-1/2-gallons are used for cooking, cleaning, flushing, watering lawns, etc.

The Conservation Program should include:

a. Replacement or maintenance of all leaking plumbing fixtures.
b. Use of "greywater" where possible.
c. Use of pressure-reducing valves on intake water feed lines to maintain the pressure to no more than 60-pounds per square inch.
d. Use of low-flow shower heads and toilets.
e. Use of "push" knobs on faucets rather than "turn valves."
f. Repair/replace all leaky faucets
g. Use of "Xeriscaping" to reduce external water use. Xeriscaping is a landscaping program which:

(1) plans and designs to minimize expense and maintenance
(2) uses turf only where needed for functional purposes. Turf alternatives such as mulches and drought-tolerant ground covers are substituted.
(3) uses drought-tolerant plants and planning placement around sun exposure.
(4) Uses mulches for water retention, long-term fertilization and weed control.
(5) efficiently irrigates through grouping plants according to water needs.
(6) improves the soil to allow for better absorption of water.
(7) maintains the landscape properly to save maintenance costs.

5.7 Responsibilities

5.7.1 NWS Headquarters (NWSH)

a. The NWS Environmental/Safety Office shall perform an annual assessment of the NWSH facilities to ensure that the facilities are in compliance with this section.

b. The NWSH Environmental/Safety Office shall periodically perform an assessment of the regional headquarters and field offices to ensure compliance with this section. The frequency of these regional and field office assessments shall be determined by the NWSH Environmental/Safety Office.

c. Requests for clarification concerning this section shall be directed to the NWSH Environmental/Safety Office.

5.7.2 Regional or Operating Unit Environmental/Safety Coordinator

a. Shall monitor and coordinate to promote compliance with the requirements of this procedure for the regional headquarters and field offices or operating units.

b. Shall ensure that procedures are developed at regional headquarters or operating unit facilities.

c. Shall perform an annual assessment of the regional headquarters facilities or operating unit to monitor and promote compliance with the requirements of this section.

d. Shall perform assessments or designate personnel to perform assessments of all field offices to monitor and promote compliance with the requirements of the section every two years.

5.7.3 Station Manager

a. Shall have oversight over the implementation of this section and ensure that the requirements of this section are followed by individuals at the NWS facility.

b. Shall ensure sufficient personnel and funding are available to enable compliance with all applicable requirements of this section.

c. Shall ensure that procedures are developed at NWS field offices for protecting on-site well water quality.

d. Shall review or delegate review of this section on an annual basis to ensure that the facility is complying with its requirements. Confirmation of this review shall be forwarded to the Regional or Operating Unit Environmental/Safety Coordinator.

5.7.4 Environmental or Environmental/Safety Focal Point or Designated Person

a. Shall ensure any tasks delegated to them by the Station Manager are implemented in accordance with the requirements of this section.
b. Shall ensure NWS facility/work site drinking water is tested annually for at least nitrate and coliform if the water is derived from a private well.

5.7.5 Employees

a. Individual employees affected by this section are required to read, understand and comply with the requirements of this section.

b. Report all violations of the requirements of this section to their supervisor or Environmental Focal Point.

5.8 References

Incorporated References

The following list of references is incorporated as a whole or in part into this section. These references can provide additional explanation or guidance for the implementation of this section.

5.8.1 U.S. Environmental Protection Agency

40 CFR 141 Natural Primary Drinking Water Regulations

5.8.2 U.S. Environmental Protection Agency

"Who is Responsible for Drinking Water Quality?",
http://www.epa.gov/safewater/dwh/who.html